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100 Barr Harbor Dr., West Conshohocken, PA 19428
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Standard Test Method for Heptane Miscibility of Lacquer Solvents¹

This standard is issued under the fixed designation D 1476; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This test method covers determination of the miscibility of lacquer solvents with heptane. It may also be used to detect qualitatively the presence of moisture in esters and ketones.

NOTE 1—For the quantitative determination of water content, see Test Method D 1364.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

1.3 For hazard information and guidance, see the supplier's Material Safety Data Sheet.

2. Referenced Documents

2.1 ASTM Standards:

D 611 Test Methods for Aniline Point and Mixed Aniline Point of Petroleum Products and Hydrocarbon Solvents²

D 1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)³

3. Significance and Use

3.1 Water in a solvent may interfere with many uses of the solvent. This test method provides a measure of the miscibility of lacquer solvents with a nonpolar medium-heptane. It also

provides a qualitative indication of the presence or absence of moisture in these solvents (often esters and ketones). The results of these measurements may be used for specification acceptance.

4. Reagents

4.1 *Heptane*, containing not less than 99 % *n*-heptane.

NOTE 2—Detailed requirements for 99 % *n*-heptane are specified in Table 1 of Test Method D 611.

5. Procedure

5.1 Both the specimen and the heptane shall be at a temperature of $20 \pm 1^\circ\text{C}$. Transfer 5 mL of the specimen to a 100-mL glass-stoppered (graduated) cylinder and add 5-mL increments of heptane until the total specified volume has been added, shaking well after each addition. A clear solution indicates miscibility and a turbid solution indicates immiscibility or the presence of water in the specimen, or both.

6. Report

6.1 If the solution remains clear after the addition of the specified amount of heptane, report the specimen as passing this test.

7. Precision and Bias

7.1 Because of the pass-fail nature of this test procedure, no precision or bias statement is presented.

8. Keywords

8.1 heptane miscibility test; lacquer solvents; water content; qualitative

¹ This test method is under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, Materials, and Applications and is the responsibility of Subcommittee D01.35 on Solvents, Plasticizers, and Chemical Intermediates.

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² *Annual Book of ASTM Standards*, Vol 05.01.

³ *Annual Book of ASTM Standards*, Vol 06.04.

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